

INSTRUCTION SHEET

For Bulletin 505 13" D-c Magnetic Shoe Brake

DESCRIPTION OF OPERATION

On this brake, the magnet coil is a separately enclosed unit mounted between an inner and outer armature. When the coil is properly energized, the armatures are attracted to each other until their outer poles seal. The movement of the armatures moves the shoes away from

the wheel. The inner armature moves the inner shoe and the outer armature moves the outer shoe. When the coil is deenergized, the compression spring forces the armatures apart and presses the shoes against the wheel.

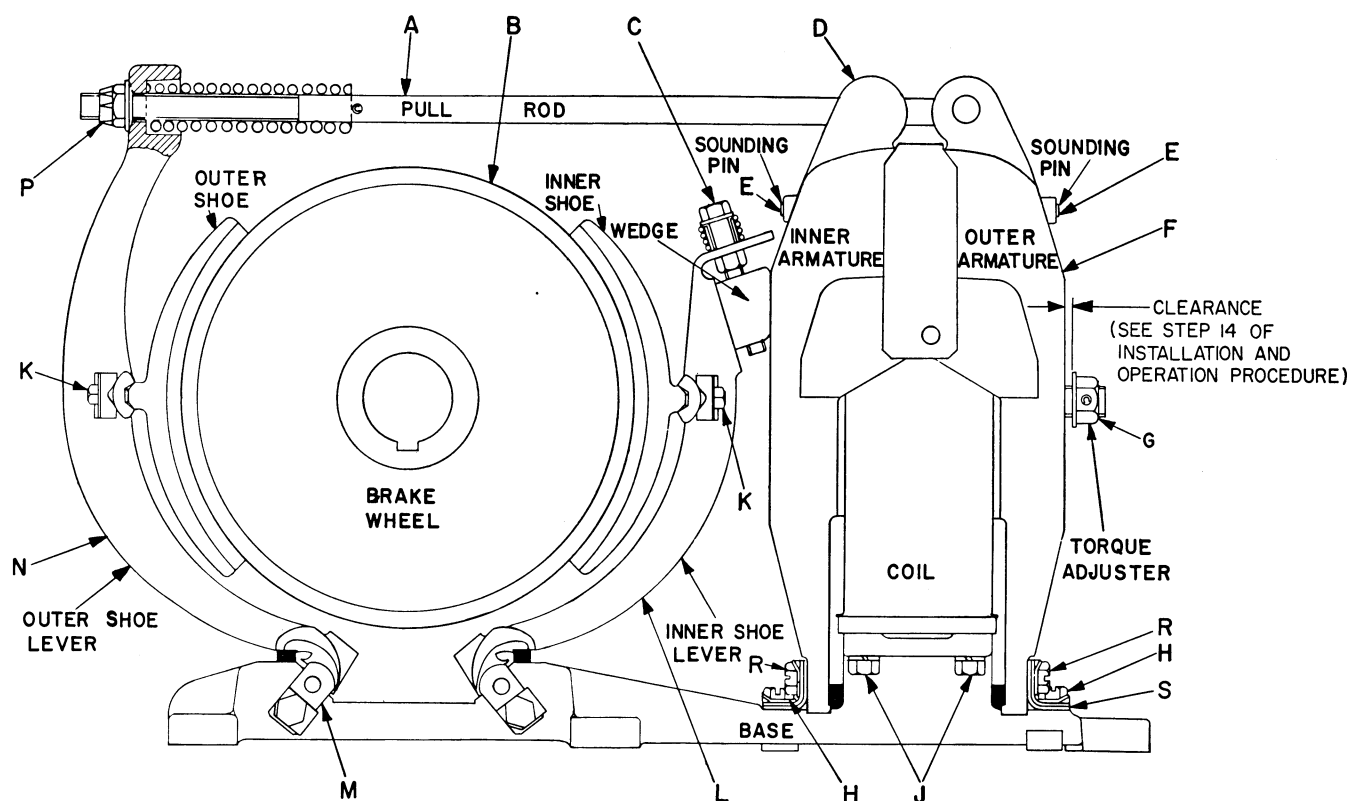


Figure 1

PROCEDURE FOR INSTALLATION AND OPERATION

(Refer to Dimension Drawing for Mounting Dimensions)

- 1—Assembly brake wheel "B" on the motor shaft.
- 2—Back off the pull rod nut "P" about 1 inch.
- 3—Turn the screw "C" clockwise to lift the wedge at the top of the inner shoe lever "L".
- 4—Slide the brake into place around the brake wheel "B" and start the bolts into the base mounting surface.
- 5—Loosen the holding screws "K" on both shoe levers leaving only a light grip.
- 6—Push the shoe levers "N" and "L" against the brake wheel "B" and check whether the shoes fit evenly across the wheel face.
- 7—Bump the base into the best position to get the most favorable fit of the shoes against the wheel "B".
- 8—If the mounting surface is not flat or is not parallel to the shaft axis, shimming may be necessary. Tighten the holding bolts to hold the base firmly in place.

PROCEDURE FOR INSTALLATION AND OPERATION—(Continued)

- 9—Be sure there is some spring pressure tending to separate the two armatures “D” and “F”. This can be tested by turning nut “G” clockwise. If nut “G” cannot be turned, the gland inside is tight against the stop on the screw and a maximum spring pressure is applied.
- 10—Tighten the pull rod nut “P” until the outer armature “F” sounding pin “E” is flush when pressed.
- 11—Turn the screw “C” on the top of the inner shoe lever counter-clockwise to move the wedge downward until the inner armature “D” sounding pin “E” is flush when pressed.
- 12—Tighten screws “K” on the shoes.
- 13—Full torque is obtained by turning the torque adjuster “G” until the gland inside is snug against the stop. Less than full torque is obtained by turning the torque adjuster “G” counter-clockwise. Check the nameplate on the brake and the table in paragraph

14 for the maximum torque setting for the duty rating of the brake.

- 14—Note that when the brake is properly adjusted for proper stroke, the torque-adjuster washer face stands clear of the armature “F” surface. As the lining wears this clearance decreases. If the adjustment is neglected the brake operation becomes sluggish and when the torque-adjuster washer touches the armature the torque drops rapidly reaching zero when the flexure of the lever is used up. The clearance dimension is not a measurable value but is determined by proper adjustment of individual brakes.

TORQUE ADJUSTMENT

Size of Brake	Wind-ing	Duty	Rated Torque (Lb. Ft.)	Turn G Clockwise to Solid	Back Off Turns of G from Solid
13"	Shunt Series	Intermittent	550	x	0
		Continuous	400	x	2-1/6
		1/2 Hour	550	x	0
		1 Hour	365	x	2-5/6

RENEWAL PARTS

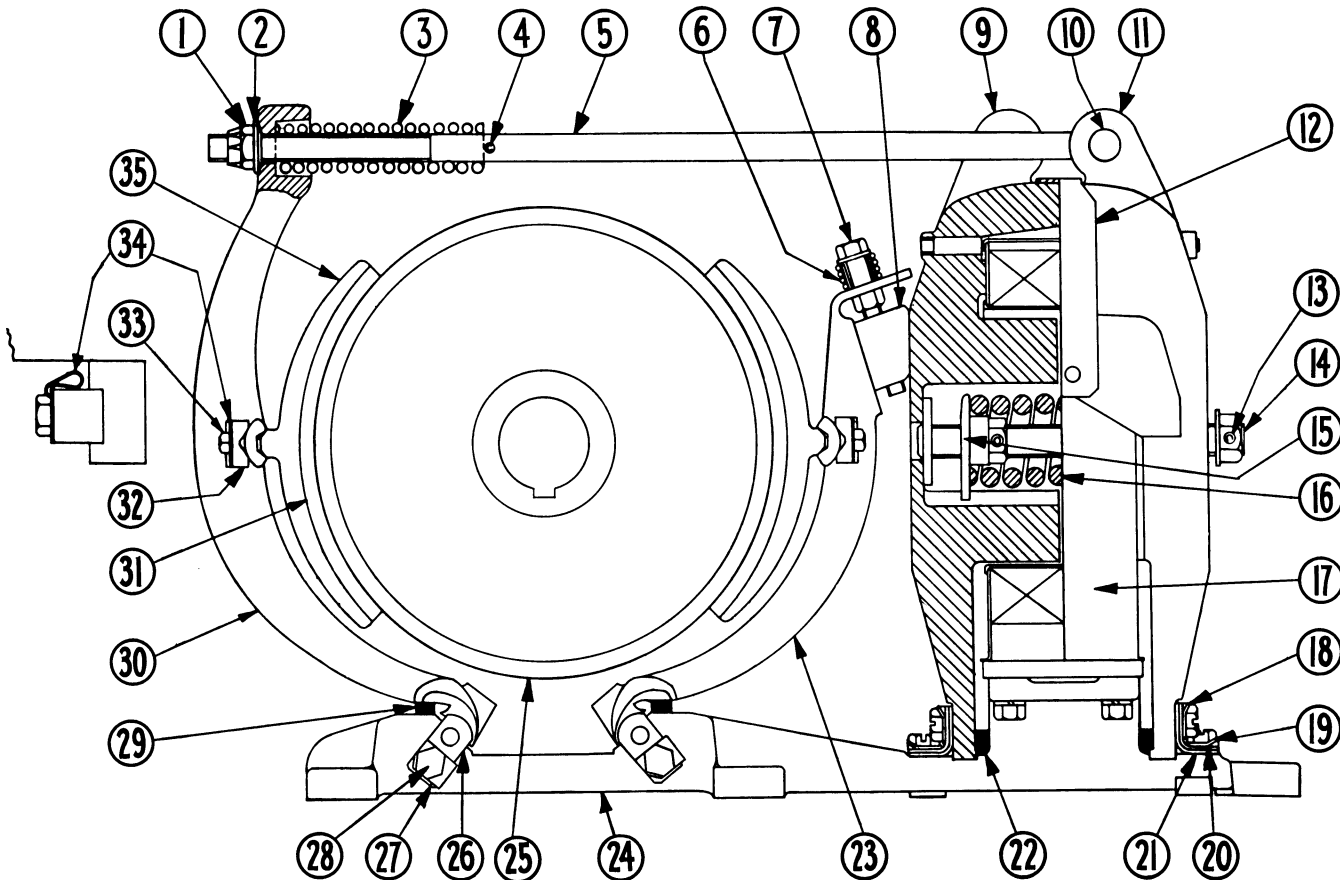


Figure 2

88-1736

**RENEWAL PARTS — Information Required**

(Refer to Fig. 2, Page 2)

Parts CANNOT be sent promptly unless you include the FOLLOWING with your order: PUBLICATION NO. 14768, ITEM NO., PART NO. DESCRIPTION and COMPLETE NAMEPLATE DATA ON THE BRAKE

Item No.	Description of Part	No. Req.	Part No.	Item No.	Description of Part	No. Req.	Part No.
1	Nut (huglock) $\frac{3}{4}$ "-10.....	1	15-680	19	Lock Strip.....	2	19-982-19
2	Spherical washer.....	1	16-1598-2	20	Angle Spring.....	2	69-2028
3	Spring.....	1	69-2029	21	Angle Spring.....	2	69-1653
4	Spring pin $\frac{3}{16}$ " x $1-1\frac{1}{2}$ " long.....	1	13-3186-7	22	Felt.....	2	32-50-10
5	Pull rod.....	1	61-985	23	Shoe lever (inner—includes item 7)	1	24-3226-12
6	Spring.....	1	69-942	24	Base (includes item 22 and 29).....	1	17-6934-2
7	Wedge adjustment assembly (includes item 6).....	1	54-4020-7	25	Brake wheel (Give Complete Nameplate Data).....	1
8	Adjusting wedge.....	1	54-2652-2	26	Retainer.....	4	55-1649
9	Armature (inner).....	1	48-602-5	27	Lock bracket.....	4	79-6783-5
10	Pin $\frac{5}{8}$ " x $3\frac{5}{8}$ " long.....	1	13-506-9	28	Screw $\frac{1}{2}$ "— $13 \times 1\frac{1}{4}$ " long.....	4	11-2051
11	Armature (outer—includes item 12)	1	48-602-6	29	Dacron felt.....	2	32-467-3
12	Rubber guard.....	1	73-1017-3	30	Shoe lever (outer).....	1	24-3227-4
13	Spring pin $\frac{1}{4}$ " x $1\frac{1}{8}$ " long.....	1	13-3186-9	31	Shoe lining (see item No. 35).....
14	Adjusting screw assembly (includes items 13 and 15).....	1	11-1746-3	32	Clamp.....	4	55-1037
15	Gland.....	1	49-2153-2	33	Screw $\frac{3}{8}$ "— $16 \times 1\frac{1}{2}$ " long.....	4	11-1788
16	Compression spring.....	1	69-1652	34	Lock spring.....	4	69-1975
17	Coil (Give No. on Coil).....	1	35	Shoe (with bonded on lining).....	2	48-603-3
18	Lock Strip.....	2	19-982-20				

PROCEDURE FOR REMOVAL OF A SHOE

(Refer to Fig. 1, Page 1)

- 1—Back off nut "P" on the pull rod "A" or turn screw "C" to lift the wedge to relieve the pressure between the chosen shoe and wheel.
- 2—Remove screws "K" from the shoe which is to be taken out.
- 3—Slide the shoe out sideways.
- 4—When replacing a shoe slide it into the groove and put in the screws loosely.
- 5—Press the shoe against the wheel and tighten screws "K"
- 6—Readjust the brake.

PROCEDURE FOR REMOVAL OF A SHOE LEVER

(Refer to Fig. 1 Page 1)

- 1—If it is desired to remove the **outer shoe lever** "N" nut "P" is backed off until the pull rod "A" may be lifted up and around the pivot in the outer armature "F".
- 2—Refer to shoe retainer "M". Both sides of the shoe lever are equipped with a lock bracket, screw and retainer plate. Bend back the tab on the lock bracket. Remove the screw and retainer plate. When reinstalling parts, and after tightening the screw, bend the tab of the lock bracket against the flat of the screw.
- 3—With the retaining plate removed, slide the outer shoe lever "N" out sideways.
- 4—To remove the Inner Shoe lever "L", turn screw "C" clockwise until the pressure of the shoe against the wheel is relieved. Refer to shoe retainer "M". Both sides of the shoe lever are equipped with a lock bracket, screw and retainer plate. Bend back the tab on the lock bracket. Remove the screw and retainer plate. When reinstalling parts, and after tightening the screw, bend the tab of the lock bracket against the flat of the screw.
- 5—With the retaining plate removed, slide the inner shoe lever "L" out sideways.

RENEWAL OF A COIL

(Refer to Fig. 1, Page 1)

- 1—Turn torque adjuster "G" counter-clockwise until the torque spring is loose.
- 2—Disconnect the pull rod end from the outer armature "F".
- 3—Straighten the tabs of the lock strips which hold screws "H" and "R". Remove screws "H" and "R" from outer armature "F" and loosen screws "H" and "R" at inner armature "D". Remove angle springs "S" at outer armature.
- 4—Lift the outer armature "F" out of the groove in the base and pull it outward.
- 5—Remove the screws "J" which attach the coil to the pedestal and slide the coil off the pedestal.
- 6—Set the new coil on the pedestal and turn screws "J" in loosely.
- 7—Set the armature "F" back into position. The spring gland must be centered in the hole of the inner armature "D". Assemble angle springs, lock strips, and screws "H" and "R" with the screws slightly loose.
- 8—Attach pull rod "A" to armature "F".
- 9—Pull armatures "F" and "D" together magnetically or by means of a clamp. Tighten screws "R" on both armatures, followed by screws "H" on the base at both armatures. Tighten screws "J". Bend the corners of the lock strips against the flats of screws "R" and "H". Remove the clamp if used.
- 10—Adjust the torque spring and shoe positions as described in the section under installation.

PROCEDURE FOR READJUSTMENT WHEN LININGS WEAR

(Refer to Fig. 1, Page 1)

Periodic checks should be made on the installation and when the sounding pins "E" depress more than 1/64 inch below the surface, adjustments should be made to compensate for the wear of the lining.

- 1—Tighten nut "P" on the outer end of the pull rod "A" until the sounding pin in the outer armature is flush with the surface when it is pressed.

- 2—Turn the screw "C" counter-clockwise to move the wedge downward until the inner armature sounding pin is flush when it is pressed inward.

It is recommended that brake shoe linings be replaced when the lining thickness at the center of the shoe has decreased to .062 inch. (See paragraph 14, Page 2.)